STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 6860

Petitions of Vermont Electric Power Company, Inc. (VELCO) and Green Mountain Power Corporation (GMP) for a certificate of public good, pursuant to 30 V.S.A. Section 248, authorizing VELCO to construct the so-called Northwest Vermont Reliability Project, said project to include: (1) upgrades at 12 existing VELCO and GMP substations located in Charlotte, Essex, Hartford, New Haven, North Ferrisburgh, Poultney, Shelburne, South Burlington, Vergennes, West Rutland, Williamstown, and Williston, Vermont; (2) the construction of a new 345 kV transmission line from West Rutland to New Haven; (3) the reconstruction of a portion of a 34.5 kV and 46 kV transmission line from New Haven to South Burlington; and (4) the reconductoring of a 115 kV transmission line from Williamstown to Barre, Vermont –	)

Order entered: 3/28/2007

ORDER RE: FERRY ROAD PLANS

I. Introduction

In today's Order, the Vermont Public Service Board ("Board") determines that Vermont Transco, LLC has not presented an acceptable design for an overhead crossing of the proposed 115 kV transmission line at Ferry Road in Charlotte. Accordingly, in this Order the Board requires that the line be placed underground at that location.

II. Background

On January 28, 2005, the Board issued an Order and Certificate of Public Good ("CPG") approving, with modifications and conditions, the Northwest Vermont Reliability Project proposed by Vermont Electric Power Company, Inc. (now Vermont Transco, LLC or "VT

Transco") (collectively "VELCO") and Green Mountain Power Corporation ("GMP"). A condition of the January 28 Order and CPG stated:

> Petitioners shall file, for the Board's approval, final construction plans for the 345 kV line, 115 kV line, and the substation upgrades, concurrent with plans for aesthetic and environmental mitigation, as required by the post-certification process described in the Order. Petitioners may commence construction only after receiving approval for such plans, and receipt of all necessary permits.[1]

In the January 28 Order, the Board specifically rejected the three alternative plans that had been submitted by VELCO for the 115 kV line in the area of Ferry Road in Charlotte. In rejecting those three proposals, the Board stated:

> It is possible that another overhead design might be developed that would allow the line to be constructed in the Ferry Road area without undue adverse impacts on aesthetics. Failing this, it may be necessary to place the 115 kV line underground for a short distance in this location.[2]

In the January 28 Order, the Board also found that "[t]here are no technical reasons why an underground 115 kV line could not be built across Ferry Road."[3]

Having rejected VELCO's three proposals for an overhead crossing of Ferry Road, the Board further required that:

> As one condition of our overall approval of the proposed Project, the Petitioners must work with the parties and any additional affected landowners in a post-certification proceeding to determine if an acceptable overhead crossing of Ferry Road can be designed. The burden lies with VELCO to propose an overhead alternative that comports with the Section 248 requirements. As VELCO itself acknowledges in its brief, should it be unable to design an appropriate overhead alternative, it will need to place the 115 kV line underground in this area.[4]

In the two years following our January 28 Order, VELCO has attempted to develop revised plans for an overhead crossing of Ferry Road. Those revised plans were initially due by

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1. Order of 1/28/05 at 226; CPG of 1/28/05 at 1.

2. Order of 1/28/05 at 115 (Finding 297).

3. *Id*. (Finding 298).

4. Order of 1/28/05 at 117 (footnote omitted).

November 11, 2005.[5] The Board extended that deadline several times at VELCO's request, to give VELCO additional time to work with the parties, the Town of Charlotte ("Charlotte"), and affected landowners to address those entities' concerns.

Ultimately, on September 1, 2006, VELCO filed its proposed final design plans for an overhead crossing of the 115 kV line at Ferry Road. The Board held technical hearings on VELCO's proposed final design plans for the 115 kV line, including the Ferry Road area, from October 16 to 20, 2006. The Board held an additional hearing regarding the Ferry Road area on December 6, 2006.

On November 30, 2006, Catherine Hughes filed a brief addressing Ferry Road issues. On December 22, 2006, VELCO, the Department of Public Service ("Department"), and Charlotte each filed its Ferry Road brief. On January 10, 2007, Catherine Hughes filed a reply brief. On January 11, 2007, VELCO, the Department, and Charlotte filed reply briefs.

On January 9, 2007, VELCO filed revised plans and related documents for the Ferry Road area in Charlotte. As described in VELCO's transmittal letter, the January 9 plans:

> depict a shift in the line to the east of the railroad tracks across from the Greenwood America parcel, as well as a shift at the Lake Champlain Waldorf School consistent with the option agreement executed with the school.

The Board overruled Charlotte's objection to VELCO's January 9 revised plans, and on February 13, 2007, convened a technical hearing on those plans. On March 9, 2007, Charlotte and VELCO each filed supplemental briefs regarding the January 9 plans. On March 9 and 13, 2007, the Department filed letters regarding VELCO's supplemental brief. On March 12, 2007, Catherine Hughes filed a reply brief. On March 16, 2007, the Department filed a letter responding to Charlotte's supplemental brief. On March 19, 2007, Charlotte filed a brief responding to VELCO's brief and to the Department's March 9 letter.

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5. Order of 6/8/05, which approved, with conditions, a proposed schedule filed by VELCO on June 2, 2005. VELCO's June 2, 2005, filing indicated that it "expects to reach resolution on the Ferry Road design and submit an update to the Board on same by July 1, 2005," and that VELCO would file its final design plans for the 115 kV line by November 11, 2005.

III. FINDINGS OF FACT

1. VELCO obtained an easement option from the Waldorf School on October 13, 2006. The option grants to VELCO a 100-foot easement corridor located west of the railroad right-of-way. To accommodate the VELCO easement, the Waldorf School has agreed to remove the school building from its present location, in exchange for a payment of $1.5 million. Tr. 10/20/06 at 11, 13 (Dunn).

2. Removal of the Waldorf School from its current location would allow a 100-foot corridor to be located entirely to the west of the railroad tracks. If the 115 kV line were to be located in this right-of-way, VELCO would not need to clear any vegetation to the east of the railroad tracks, with the possible exception of a so-called "danger" tree adjacent to Ferry Road. Tr. 10/20/06 at 11, 13 (Dunn); tr. 10/20/06 at 12 (Boyle).

3. VELCO's latest (January 9) proposal for an overhead crossing at Ferry Road utilizes the 100-foot corridor on the west side of the tracks. Exhs. VT Transco Post-CPG 69 to 72.

4. The route of VELCO's January 9 proposal is very similar to VELCO's original (2003) proposal, as well as to its Design Detail proposal, both of which were rejected by the Board in the January 28, 2005, Order. Donovan 2/9/07 pf. at 4; exh. Charlotte Ferry Road Post-CPG 1; Order of 1/28/05 at 113–117; *compare* exh. VELCO TD-5 at 8, exh. VELCO Dunn/Harr DD-11, and exhs. VT Transco Post-CPG 69 to 72.

5. Under VELCO's January 9 proposal, the 115 kV line would be highly visible to travelers on Ferry Road. The January 9 proposal would result in significant adverse impacts on views from Ferry Road and from conserved lands. Donovan 2/9/07 pf. at 4.

6. Placing the 115 kV line underground as it crosses Ferry Road would cost as much as $1.2 million more than VELCO's January 9 proposal for an overhead crossing. This additional cost is based on the underground segment running from the southern boundary of the Lake Champlain Waldorf School property to the relocated Charlotte substation. Exh. VT Transco Post CPG-13, att. 3; tr. 10/20/06 at 13, 104 (Dunn); exhs. Charlotte Post-CPG 17 to 19; exh. DPS-Post-CPG 38B; exh. DPS-Cross-4-Aabo.

7. The $1.2 million estimate of the additional cost of underground construction is VELCO's own estimate. This estimate is based on component costs of underground

construction, prepared by VELCO's consultant, that "are at the high end of the range." The true cost of underground construction is likely to be somewhat lower than that which VELCO's consultant has projected. Exh. VT Transco Post CPG-13, att. 3; exh. DPS Post-CPG 32.

8. VELCO's $1.2 million estimate also includes costs that would not, in fact, increase if the line were placed underground. Instead, part of the $1.2 million figure reflects fixed costs that VELCO assigned to project components based on the each component's percentage of total costs. Thus, VELCO assigned a greater proportion of those fixed costs to an underground alternative than to an overhead option simply because the underground construction had higher direct costs. Tr. 10/20/06 at 49–55 (Dunn/Storo/Grannis/LaForest/Johnson/Boyle panel).

9. In its January 9 plans, VELCO proposes to place 680 feet of existing distribution facilities underground along Ferry Road. If the 115 kV line were to remain above-ground as it crosses Ferry Road, a further extension of the distribution burial would be justified for aesthetic mitigation purposes. This extension of the distribution burial would cost approximately an additional $158,000, which was not reflected in VELCO's $1.2 million estimate of the cost differential between overhead and underground construction. Exh. DPS Post-CPG 9; exh. DPS Post-CPG 35; exh. DPS Post-CPG 38A at 9; exh. VT Transco Post-CPG 13, att. 3; tr. 10/19/05 at 150–151 (Raphael).

10. VELCO has paid the Lake Champlain Waldorf School $100,000 to twice extend the term of the Option Agreement. This $100,000 should be added to the cost of an overhead crossing. Tr. 2/13/07 at 100–101 (Dunn).

IV. DISCUSSION

In our January 28 Order, we found that the Ferry Road area "presents significant challenges in designing a crossing for the 115 kV line."[6] Among the challenges is the presence of the Lake Champlain Waldorf School, whose location next to the railroad tracks constrains VELCO's ability to locate the 115 kV line alongside the railroad corridor.[7] Additional obstacles

6. Order of 1/28/05 at 113 (Finding 284).

7. *Id.* (Finding 286).

to the successful siting of an overhead crossing at Ferry Road include (1) the open and scenic nature of the area, as evidenced by a clear, written community standard designed to protect that scenic nature;[8] (2) the presence in the landscape of the Knowles Farm, "which has been conserved to preserve 'the scenic and aesthetic resources of a rural landscape' along Ferry Road";[9] (3) the many visitors to the state who use the ferry and thus travel along Ferry Road;[10] and (4) Ferry Road's function as a gateway to the village.[11] The length of time that it has taken before VELCO filed its current proposal on January 9, 2007 – fourteen months after VELCO initially represented that it would file its final plans, and almost two years after our January 28, 2005, Order – is indicative of those design challenges.

For this challenging area, prior to the January 28 Order VELCO had presented three separate proposals for an overhead line across Ferry Road. The first proposal consisted of a 115 kV line crossing Ferry Road west of the Waldorf School on the Waldorf School property. The second VELCO proposal called for the 115 kV line crossing Ferry Road even further to the west, just east of the access drive for the small business park located east of the Waldorf School property. VELCO's third proposal – a "Design Detail" proposal – would have the 115 kV line cross Ferry road between the Waldorf School and the railroad tracks. (VELCO presented two versions of its Design Detail plans; in one version, one span of the roadside distribution line would be placed underground, at the 115 kV transmission line road crossing.) In the January 28 Order we rejected each of those proposals, finding that:

> Each of the three overhead options would have an adverse impact on aesthetics.
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> - The first would have significant adverse effects on views from several locations, including views from conserved lands.
> - The Reroute option would place the line in an important open space area where it would be difficult to screen.

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8. Order of 1/28/05 at 113 (Finding 285), 116.

9. *Id*. at 113 (Finding 288).

10. *Id*. (Finding 289).

11. *Id*.

- The third Design Detail option would remove most of the substantial vegetative buffer between the residences and the line, which also buffers them from the railroad tracks and institutional land uses west of the tracks.[12]

VELCO has now proposed an overhead crossing of Ferry Road that, for an additional cost of $1.5 million, would allow the 115 kV line to be located on the west side of the tracks along the Waldorf School property. The primary aesthetic benefit of VELCO's current proposal – and thus the primary aesthetic benefit resulting from the $1.5 million payment – would be avoiding the need for VELCO to clear vegetation on the east side of the tracks (with the possible exception of a tree that VELCO might ultimately consider to be a danger tree).

Retention of the vegetation on the east side of the tracks would represent a meaningful improvement over the Design Detail alternative that VELCO had proposed prior to the January 28 Order. However, as Charlotte notes in its March 9, 2007, supplemental brief, Vermont law requires that the railroad right-of-way be kept clear of vegetation within 80 rods of road crossings.[13] Thus, the aesthetic benefit gained by the $1.5 million in additional cost appears at best highly uncertain – even if VELCO would not need to clear vegetation to the east of the tracks, it appears that the railroad (or, perhaps, the Agency of Transportation) is under a statutory obligation to do so.

Furthermore, even if we were assured that the vegetation on the east side of the railroad tracks would remain, we would still be unable to approve VELCO's January 9 proposal for an overhead crossing at Ferry Road. Retention of the vegetation on the east side of the tracks would provide important screening for nearby residences, but other significant adverse aesthetic impacts would remain, most notably views from the conserved land on Knowles Farm[14] and views for persons traveling east on Ferry Road. With respect to these impacts, the January 9 proposal differs little from VELCO's original and Design Detail proposals that we rejected in the

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12. Order of 1/28/05 at 114 (Finding 295).

13. Specifically, 5 V.S.A. § 3673 provides that:

> A person or corporation operating a railroad in this state shall cause all trees, shrubs and bushes to be destroyed at reasonable times within the surveyed boundaries of their lands, for a distance of 80 rods in each direction from all public grade crossings.

14. Knowles Farm includes a trail easement for public recreational uses. Order of 1/28/05 at 163 (Finding 501).

January 28, 2005 Order.

Moreover, VELCO's January 9 plans have added $1.5 million in costs to the overhead crossing, thereby greatly reducing the cost advantage of placing the line overhead, while nonetheless offering neither any reliable assurance that it would be adequately screened from the nearby residences to the east of the tracks nor any meaningful abatement of the impacts on views from Ferry Road and conserved lands. While all of the experts who addressed the issue agreed that placing the 115 kV line underground at Ferry Road would cost more than an overhead line, they disagreed on the details and costs for the underground option. VELCO has estimated that, with the $1.5 million included in the overhead costs, an underground crossing at Ferry Road would cost approximately $1.2 million more than an overhead line. This figure appears to be based on component cost estimates at the high end of a reasonable range; even if we accept those relative high component costs, VELCO's $1.2 million estimate overstates the incremental cost of undergrounding, in two other ways. First, VELCO's calculation includes fixed costs that VELCO assigned to project segments (such as the Ferry Road crossing) based on the segment's proportion of total project costs. Second, if the Ferry Road crossing were to be placed overhead, we would require VELCO to extend its proposed burial of the existing roadside distribution facilities, which would add an estimated $158,000 to the cost of the overhead crossing. Correcting for these two overstatements would further reduce the cost differential for placing the line underground.[15]

We conclude that, for an incremental cost in the neighborhood of one million dollars, placing the 115 kV line underground represents a generally available mitigating step that a reasonable person would take to improve the harmony of the 115 kV line with its surroundings in the scenic Ferry Road area.[16] Therefore, in order to avoid an undue adverse effect on aesthetics under 30 V.S.A. § 248(b)(5), we require VELCO to develop plans for an underground crossing

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15. The differential would be further reduced if the cost of the January 9 overhead proposal were increased to reflect the $100,000 that VELCO has paid to extend the deadline for its option agreement with the Lake Champlain Waldorf School. Although we recognize that this is now a sunk cost, arguably it should be attributed only to the overhead crossing.

16. In reaching this conclusion, we have considered, as we must, the "clear, written community standard intended to preserve the aesthetics or scenic beauty of the Ferry Road area." Order of 1/28/05 at 116.

of Ferry Road, with the underground segment to run from approximately the southern boundary of the Lake Champlain Waldorf School property to the relocated Charlotte substation. These plans must include appropriate EMF shielding of the underground line in the vicinity of the Waldorf School property.

In summary, the Board early on identified the Ferry Road area as a particularly difficult area to site the transmission line and provided VELCO ample opportunity to develop an overhead option for the transmission line in this area. To date, VELCO has not produced a proposal that does not have an undue adverse aesthetic impact; if such a proposal has been developed we would have approved it. The Board has determined that placing a transmission line underground should be the option of last resort because of the costs associated with such action and the fact that, generally, aesthetic mitigation measures have been developed to ensure that an above-ground route does not have an unduly adverse impact on aesthetics. In this Docket, we have identified only one other location along the roughly sixty miles of transmission line, the Bay Road area in Shelburne, where placing the line underground was warranted. Both the Bay Road area and the Ferry Road area present unique circumstances that make siting an above-ground route extremely difficult. In the Bay Road area, we found that placing the line underground was necessary. We reluctantly make the same determination for the Ferry Road area today. However, the fact that we have found it necessary to place the line in this particular area, with its unique circumstances, does not create a precedent for placing other portions of this, or other transmission lines, underground.

In our January 28 Order, in requiring VELCO to place underground a section of line along Bay Road in Shelburne, we noted:

> VELCO will also need to evaluate whether any archaeological or environmental issues might present significant problems for an underground design. If such problems are encountered, VELCO must bring them to our attention, along with all reasonable measures that it has identified to address the problems.[17]

We impose the same requirements here, with respect to the underground placement of the Ferry Road crossing.

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17. Order of 1/28/05 at 129.

VELCO's Ferry Road plans have also included the section of line proposed to cross the Greenwood American property, which lies immediately south of the Waldorf School property. Prior to January 9, 2007, all of VELCO's proposals for the Greenwood America property have maintained the proposed line in the existing transmission corridor, which lies west of the railroad tracks. In its January 9 plans, VELCO included an alternative design which would place this section of the line to the east of the tracks. No party or affected landowner has asked that we approve this shift in location to the east of the tracks.[18] Moving the line to the east of the tracks across from the Greenwood America property would create adverse impacts on new properties; those properties include conservation easements–purchased almost entirely with Town of Charlotte funds–designed to protect scenic resources.[19] Because of those impacts, owners of those properties, as well as the holder of the conservation easements, strongly oppose moving the line to the east side of the tracks.[20] Given these circumstances, we conclude that in this area, the 115 kV line shall remain on the west side of the railroad tracks.

SO ORDERED.

18. However, Charlotte had previously recommended that VELCO *consider* such a relocation.

19. Tr. 2/13/07 at 181–192 (Foster), 197–204 (Frost).

20. *Id.*

Dated at Montpelier, Vermont, this 28th day of March, 2007.

_____)	
)	PUBLIC SERVICE
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s/David C. Coen)	BOARD
)	
)	OF VERMONT
s/John D. Burke)	

OFFICE OF THE CLERK

FILED: March 28, 2007

ATTEST: s/Judith C. Whitney
Deputy Clerk of the Board

NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: psb.clerk@state.vt.us)